

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY



(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference BW345R/RML		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/IB2004/052866		International filing date (day/month/year) 20.12.2004	Priority date (day/month/year) 19.12.2003	
International Patent Classification (IPC) or national classification and IPC A41G3/00				
Applicant INDORATA-SERVICOS E GESTAO LDA				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 14 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 4 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input checked="" type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 14.10.2005		Date of completion of this report 03.02.2006		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Lemmen, R Telephone No. +31 70 340-4112 		

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/IB2004/052866

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-16 as originally filed

Claims, Numbers

1-36 received on 19.10.2005 with letter of 14.10.2005

Drawings, Sheets

1/8-8/8 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
 4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/IB2004/052866

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation to restrict or pay additional fees, the applicant has:
- ☐ restricted the claims.
 - ☒ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☐ neither restricted nor paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with.
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☒ all parts.
 - ☐ the parts relating to claims Nos. .

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-36
	No: Claims	
Inventive step (IS)	Yes: Claims	1-36
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-36
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item IV.

- 1 This Authority considers that there are 2 groups of inventions (1.1,1.2) covered by the claims indicated as follows:

1.1 Claims 1-16:

A method for thickening hair using a separator device for separating a portion of hair corresponding to connection elements of a plurality of hair extensions and the corresponding separator device for receiving hair.

1.2 Claims 17-36:

An assembly for thickening hair with a first and second adhesive tape each having positioning elements and a hair extension applicator having means for positioning such an assembly.

- 2 They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

Prior art for assessing unity of invention:

D1: WO 03/061416 A (INDORATA - SERVICOS E GESTAO, LDA; GOLD, DAVID, ANTHONY) 31 July 2003 (2003-07-31)

2.1 First group of inventions (main invention)

Document D1 discloses (page 8, line 15 - page 15, line 30 and figures 9-15):

A method for thickening hair, comprising the steps of:

- * providing a first plurality of hair extensions (C) having respective proximal ends (107) provided with a respective connecting element (E);
- * providing a first adhesive tape with a first adhesive face (143) and arranging, according to a predetermined arrangement, said proximal ends (107) onto the first adhesive face (143);

- * arranging a separator device at a portion of hair (P) to be thickened, so that said portion may be separated in adjacent portions, containing basically the same quantity of receiving hair (page 12, lines 32-33: "hair-dressing" using implicitly as a separator device a normal comb)
- * keeping tensioned said portion of hair to be thickened (figures 13-15, normal hair-dressing);
- * providing a second adhesive tape (144) to be overlapped on said first tape (143) and enclosing, between said first and second adhesive tape (143,144), said portion of hair (P) to be thickened
- * removing said separator device (comb used in hair-dressing) from said portion of hair (P); and
- * activating connection means (1) operating on said connecting elements (E) of the hair extensions (C) (**cf. claim 1 in part**).

Document D1 also discloses

A separator device (comb used in hairdressing) for receiving hair, for the application of a thickening assembly comprising:

- * a plurality of hair extensions (C) having respective proximal ends (107) provided with a respective connecting element (E);
- * an adhesive tape with an adhesive face (143) onto which there are arranged said proximal ends (107) according to a predetermined arrangement (**cf. claim 7 in part**).

Therefore a first group of inventions is to be found in the potentially special features of **claims 1** of

- a1** each portion being corresponding to a connecting element placed on said adhesive tape and equidistant from the other portions;
- b1** arranging said connecting elements at the respective portion of receiving hair;
- c1** wherein said second tape has a respective second adhesive face on which it is arranged a second plurality of hair extensions having respective proximal ends provided with a respective connecting element spaced so as to overlap to the respective connecting elements of said first plurality,

- d1** said connection means being such as to simultaneously operate on the connecting elements of both said pluralities.

and the separator device of **claim 7** comprising:

- a7** first separation tooth elements, equidistant and such as to subdivide a portion of hair into portions containing basically the same quantity of receiving hair;
b7 a bearing surface for arranging said adhesive tape in position, delimited on one side by said first tooth elements; and
c7 second tooth elements, arranged on the opposite side with respect to said first tooth elements, having with respect to the latter a greater density and interspaces such as to arrest the receiving hair inserted therebetween.

The contribution to the state-of-the-art is to be seen in the following: these potentially special features of claim 1 (**features a1,b1**) and claim 7 (**features a7,b7,c7**) solve the problem providing a method and separator device allowing fast application of a high number of hair extensions in one step, simultaneously carrying out a corresponding number of connections with very small dimensions, carried out with the correct number of receiving hair (cf. description page 4, lines 27-30).

2.2 Second group of inventions

Document D1 discloses (page 8, line 15 - page 15, line 30 and figures 9-15):

An assembly for thickening hair, comprising:

- * a first adhesive tape, apt to be reversibly adhered on hair, having an adhesive face (143) onto which there are arranged connecting elements (E) of hair extensions (C) of a first plurality at their respective distal end (107);
- * a second adhesive tape, apt to be reversibly adhered on hair, having an adhesive face (**cf. claim 17 in part**).

Document D1 also discloses

A hair extension applicator (1), of the kind employed for thickening hair via the

application, to the natural hair, of hair extensions (C), comprising:

- * a fixed contrasting element (10) bearing connecting elements (E) of hair extensions (C) on a tape and corresponding portions of receiving hair (P) of hair to be thickened, separated and corresponding to a respective connecting element (E); and
- * a movable pressure element (70) acting on said fixed element (10), said movable pressure element (70) being driven by a pneumatic device operating at a predetermined pressure, apt to press on connecting elements (E) of hair extensions (C) and corresponding portions of receiving hair of hair to be thickened (P) enclosed by tapes (143, 144) (**cf. claim 27 in part**).

Therefore a second group of inventions is to be found in the potentially special features of **claim 17** in that

- a17** connecting elements of hair extensions of a second plurality are arranged on the second adhesive tape at their respective distal end;
- b17** the tapes having positioning elements such that the connecting elements of the extensions of said first and second plurality overlap when the positioning elements are in turn overlapped.

and of **claim 27** in that the applicator

- a27** comprises means for positioning the tapes, the connecting elements and the hair portions, in a predetermined position on said fixed and pressure elements.

The contribution to the state-of-the-art is to be seen in the following: these special features solve the problem of providing positioning means so that the respective connected elements overlap to adhere to single portions of receiving hair and to concentrate the action of the connection means just on said portions of receiving hairs and on respective connecting elements (cf. description page 5, lines 6-13).

- 3 The above listed group of inventions cannot be linked by the same or corresponding potentially special features or by the same or corresponding problem so as to form a single inventive concept.

It is noted that claims 1 and 17 can be linked by corresponding features c1 and a17. These features are however not present in claims 7 and 27 and can therefore not form corresponding special features for all independent claims.

The requirement of Rule 13.2 PCT is therefore not fulfilled. The present application contains two groups of inventions and does not fulfill the requirement of Rule 13.1 PCT.

Re Item V.

- 1 Reference is made to the following documents:
D1 : WO 03/061416 A (INDORATA - SERVICOS E GESTAO, LDA; GOLD, DAVID, ANTHONY) 31 July 2003 (2003-07-31)
D2 : US 6 510 856 B1 (AHN CHANG H) 28 January 2003 (2003-01-28)
D3 : DE 101 34 781 A1 (BEGE PRIVATSTIFTUNG, WIEN) 26 September 2002 (2002-09-26)
D4 : DE 100 31 682 A1 (LEE, KOO-HIE) 10 January 2002 (2002-01-10)
D5 : DE 94 21 488 U1 (DORTEZ, CARLYLE L., 10787 BERLIN, DE) 22 February 1996 (1996-02-22)
D6: WO 02/098250 A (INDORATA SERVICOS E GESTAO LDA) 12 December 2002 (2002-12-12)
D7: DE 196 26 107 A1 (GOLD, DAVID ANTHONY, LONDON, GB; VIZZARRI, ADRIANA, ROM, IT; ANTONINO,) 25 September 1997 (1997-09-25)
D8: US-A-5 722 434 (WALKER ET AL) 3 March 1998 (1998-03-03)

2 INDEPENDENT CLAIM 1

- 2.1 **Document D1**, which is considered to represent the most relevant state of the art discloses (page 8, line 15 - page 15, line 30 and figures 9-15; the references in parentheses applying to this document):

A method for thickening hair, comprising the steps of:

- * providing a first plurality of hair extensions (C) having respective proximal ends (107) provided with a respective connecting element (E);

- * providing a first adhesive tape with a first adhesive face (143) and arranging, according to a predetermined arrangement, said proximal ends (107) onto the first adhesive face (143);
- * arranging a separator device at a portion of hair (P) to be thickened, so that said portion may be separated in adjacent portions, containing basically the same quantity of receiving hair (page 12, lines 32-33: "hair-dressing" using implicitly as a separator device a normal comb)
- * keeping tensioned said portion of hair to be thickened (figures 13-15, normal hair-dressing);
- * providing a second adhesive tape (144) to be overlapped on said first tape (143) and enclosing, between said first and second adhesive tape (143,144), said portion of hair (P) to be thickened
- * removing said separator device (comb used in hair-dressing) from said portion of hair (P); and
- * activating connection means (1) operating on said connecting elements (E) of the hair extensions (C) (**cf. claim 1 in part**).

From this, the subject-matter of independent claim 1 differs in the steps of

- a1 each portion being corresponding to a connecting element placed on said adhesive tape and equidistant from the other portions;
- b1 arranging said connecting elements at the respective portion of receiving hair;
- c1 wherein said second tape has a respective second adhesive face on which it is arranged a second plurality of hair extensions having respective proximal ends provided with a respective connecting element spaced so as to overlap to the respective connecting elements of said first plurality,
- d1 said connection means being such as to simultaneously operate on the connecting elements of both said pluralities.

The subject-matter of claim 1 is therefore novel (Article 33(2) PCT)

- 2.2 The problem to be solved by the present invention may be regarded as providing a method allowing fast application of a high number of hair extensions in one step, simultaneously carrying out a corresponding number of connections with very small dimensions, carried out with the correct number of receiving hair (cf. description page

4, lines 27-30).

- 2.3 The solution to this problem proposed in claim 1 of the present application is neither known nor suggested by any of the available prior art documents and therefore considered as involving an inventive step (Article 33(3) PCT): Although the steps a1 and b1 of arranging connecting elements at respective portions of receiving hair are known per se in documents D2-D5, there are no hints in the available prior art to apply these steps to a method of connecting the specific hair extensions according to features c1.
- 2.4 Dependent Claims 2-6 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

3 INDEPENDENT CLAIM 7

- 3.1 **Document D1**, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):

A separator device (comb used in hairdressing) for receiving hair, for the application of a thickening assembly comprising:

- * a plurality of hair extensions (C) having respective proximal ends (107) provided with a respective connecting element (E);
- * an adhesive tape with an adhesive face (143) onto which there are arranged said proximal ends (107) according to a predetermined arrangement.
- * first separation tooth elements, equidistant and such as to subdivide a portion of hair into portions containing basically the same quantity of receiving hair;

From this, the subject-matter of independent claim 7 differs in that the separator device comprises:

- * a bearing surface for arranging said adhesive tape in position, delimited on one side by said first tooth elements; and
- * second tooth elements, arranged on the opposite side with respect to said first tooth elements, having with respect to the latter a greater density and

interspaces such as to arrest the receiving hair inserted therebetween.

The subject-matter of claim 7 is therefore novel (Article 33(2) PCT)

- 3.2 The problem to be solved by the present invention may be regarded as providing a separator device allowing fast application of a high number of hair extensions in one step, simultaneously carrying out a corresponding number of connections with very small dimensions, carried out with the correct number of receiving hair (cf. description page 4, lines 27-30).
- 3.3 The solution to this problem proposed in claim 7 of the present application is neither known nor suggested by any of the available prior art documents and therefore considered as involving an inventive step (Article 33(3) PCT).
- 3.4 Dependent Claims 8-16 are dependent on claim 7 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

4 INDEPENDENT CLAIM 17

- 4.1 **Document D1**, which is considered to represent the most relevant state of the art, discloses (page 8, line 15 - page 15, line 30 and figures 9-15):

An assembly for thickening hair, comprising:

- * a first adhesive tape, apt to be reversibly adhered on hair, having an adhesive face (143) onto which there are arranged connecting elements (E) of hair extensions (C) of a first plurality at their respective distal end (107);
- * a second adhesive tape, apt to be reversibly adhered on hair, having an adhesive face (**cf. claim 17 in part**).

Such an assembly is also known from **document D6**.

From this, the subject-matter of independent claim 17 differs in that the

- * connecting elements have hair extensions of a second plurality arranged on at their respective distal end; and

- * the tapes having positioning elements such that the connecting elements of the extensions of said first and second plurality overlap when the positioning elements are in turn overlapped.

The subject-matter of claim 17 is therefore novel (Article 33(2) PCT)

- 4.2 The problem to be solved by the present invention may be regarded as providing positioning means so that the respective connected elements overlap to adhere to single portions of receiving hair and to concentrate the action of the connection means just on said portions of receiving hairs and on respective connecting elements (cf. description page 5, lines 6-13).
- 4.3 The solution to this problem proposed in claim 17 of the present application is neither known nor suggested by any of the available prior art documents and therefore considered as involving an inventive step (Article 33(3) PCT): Although the use of a first and a second plurality of hair extensions is known per se from e.g. documents D7 and D8, there are no hints in these documents with respect to the positioning elements of the tapes. Document D6 discloses two tapes each having connecting elements with positioning elements, however only one of the two complementary sets of connecting elements having a plurality of hair extensions. There are no hints in the available prior art for providing two pluralities of hair extensions in such an assembly.
- 4.4 Dependent Claims 18-26 are dependent on claim 17 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

5 INDEPENDENT CLAIM 27

5.1 ARTICLE 6 PCT

In claim 27, the feature "tapes" is not clear (Art. 6 PCT) and interpreted as referring to "the tapes of the assembly of thickening hair according to claim 17". For "tapes" in general, **document D1** discloses all the features of claim 27 (cf. figures 11, 12, 13 and 14 with positioning means 146 of the tapes fitting into a stop of the applicator for

positioning the assembly).

- 5.2 **Document D1**, which is considered to represent the most relevant state of the art, discloses

A hair extension applicator (1), of the kind employed for thickening hair via the application, to the natural hair, of hair extensions (C), comprising:

- * a fixed contrasting element (10) bearing connecting elements (E) of hair extensions (C) on a tape and corresponding portions of receiving hair (P) of hair to be thickened, separated and corresponding to a respective connecting element (E); and
- * a movable pressure element (70) acting on said fixed element (10), said movable pressure element (70) being driven by a pneumatic device operating at a predetermined pressure, apt to press on connecting elements (E) of hair extensions (C) and corresponding portions of receiving hair of hair to be thickened (P) enclosed by tapes (143, 144) (**cf. claim 27 in part**).

From this, the subject-matter of independent claim 27 differs in that the applicator

- * comprises means for positioning the tapes, the connecting elements and the hair portions, in a predetermined position on said fixed and pressure elements.

The subject-matter of claim 27 is therefore novel (Article 33(2) PCT)

- 5.3 The problem to be solved by the present invention may be regarded as providing positioning means so that the respective connected elements overlap to adhere to single portions of receiving hair and to concentrate the action of the connection means just on said portions of receiving hairs and on respective connecting elements (cf. description page 5, lines 6-13).
- 5.4 The solution to this problem proposed in claim 27 of the present application is neither known nor suggested by any of the available prior art documents and therefore considered as involving an inventive step (Article 33(3) PCT).
- 5.5 Dependent Claims 28-36 are dependent on claim 27 and as such also meet the

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/IB2004/052866

requirements of the PCT with respect to novelty and inventive step.

CLAIMS

1. A method for thickening hair, comprising the steps of:
 - * providing a first plurality (A) of hair extensions (C) having respective proximal ends (7) provided with a respective connecting element (9);
 - 5 * providing a first adhesive tape (2) with a first adhesive face (43) and arranging, according to a predetermined arrangement, said proximal ends (7) onto the first adhesive face (43);
 - * arranging a separator device (51) at a portion of hair (T) to be thickened, so that said portion may be separated in adjacent portions (60), containing basically the same
 - 10 quantity of receiving hair, each portion (60) being corresponding to a connecting element (9) placed on said adhesive tape (2) and equidistant from the other portions (60);
 - * keeping tensioned said portion of hair to be thickened;
 - * providing a second adhesive tape (4) to be overlapped on said first tape (2) and enclosing, between said first and second adhesive tape (2, 4), said portion of hair (T) to
 - 15 be thickened, arranging said connecting elements (9) at the respective portion (60) of receiving hair;
 - * removing said separator device (51) from said portion of hair (T); and
 - * activating connection means (10) operating on said connecting elements (9) of the hair extensions (C),
 - 20 wherein said second tape (4) has a respective second adhesive face (44) on which it is arranged a second plurality (B) of hair extensions (C) having respective proximal ends (7) provided with a respective connecting element (9) spaced so as to overlap to the respective connecting elements (9) of said first plurality (A), said connection means being such as to simultaneously operate on the connecting elements (9) of both said pluralities (A, B).
- 25 2. A method according to claim 1, wherein said first and second adhesive tape (2, 4) are formed by two distinct adhesive tape sections.
3. A method according to claim 1, wherein said connecting elements (9) comprise a thermoplastic material.
4. A method according to claim 3, wherein said connection means are activated by
- 30 application of energy.
5. A method according to claim 4, wherein heat is applied.
6. A method according to claim 1, comprising the step of selecting the separator device (51) according to an indication (50) related to the dimensions, the number and/or the density of the hair extensions (C).
- 35 7. A separator device (51) for receiving hair, for the application of a thickening assembly (1) comprising:
 - * a plurality of hair extensions (C) having respective proximal ends (7) provided with

a respective connecting element (9);

* an adhesive tape (2) with an adhesive face (43) onto which there are arranged said proximal ends (7) according to a predetermined arrangement,

the separator device (51) being characterized in that it comprises:

5 * first separation tooth elements (52), equidistant and such as to subdivide a portion of hair into portions containing basically the same quantity of receiving hair;

* a bearing surface (53) for arranging said adhesive tape (2) in position, delimited on one side by said first tooth elements (52); and

10 * second tooth elements (55), arranged on the opposite side with respect to said first tooth elements (52), having with respect to the latter a greater density and interspaces such as to arrest the receiving hair inserted therebetween.

8. A device (51) according to claim 8, wherein the first tooth elements (52) are basically triangle-shaped.

9. A device (51) according to claim 7, wherein said first tooth elements (52) are
15 positioned on opposite sides of the bearing surface (53).

10. A device (51) according to claim 7, wherein the bearing surface (53) has a width equal to that of the tape (2).

11. A device (51) according to claim 7, wherein sideways the bearing surface (53) comprises at least one indent-shaped stop (54) for the correct positioning of the thickening
20 assembly (1).

12. A device (51) according to claim 7, comprising at least one handle (57).

13. A device (51) according to claim 12, comprising a pair of opposing handles (57),
arranged sideways.

14. A device (51) according to claim 7, comprising, in a position corresponding to the
25 second tooth elements (55), means for securing the receiving hair and the hair extensions in a preset position.

15. A device (51) according to claim 13, wherein said securing means comprises a spring clasp (58) that rotates sideways to the hair.

16. A device (51) according to one of the claims 8 to 15, comprising a removable
30 gripper (61), apt to receive said thickening assembly once arranged on the device (51), such as to leave free the surface of the assembly (1).

17. An assembly for thickening hair (1), comprising:

* a first adhesive tape (2), apt to be reversibly adhered on hair, having an adhesive face (43) onto which there are arranged connecting elements (9) of hair extensions (C) of a
35 first plurality (A) at their respective distal end (7);

* a second adhesive tape (4), apt to be reversibly adhered on hair, having an adhesive face (44) onto which there are arranged connecting elements (9) of hair extensions (C) of a

second plurality (B) at their respective distal end (7);
the tapes (2, 4) having positioning elements such that the connecting elements (9) of the extensions of said first and second plurality (A, B) overlap when the positioning elements are in turn overlapped.

5 18. An assembly (1) according to claim 17, wherein said first and second adhesive tape (2, 4) consist of distinct adhesive tape sections.

19. An assembly (1) according to claim 18, wherein said positioning elements are holes (6) arranged at the corners of the adhesive tapes (2, 4).

10 20. An assembly (1) according to claim 17, wherein said first and second adhesive tape (2, 4) are substantially transparent.

21. An assembly (1) according to claim 17, wherein said adhesive faces (43, 44) have an adhesive of a non-permanent and reversible type, operated by pressure.

22. An assembly (1) according to claim 17, wherein the connecting element (9) is made of a thermoplastic material.

15 23. An assembly (1) according to claim 17, wherein the connecting elements (9) are substantially equidistant and placed at the center of the respective adhesive tape (2, 4), the hair extensions (C) being aligned in parallel to each other, so that the hairs of adjacent hair extensions (C) do not get knotted to each other.

20 24. An assembly (1) according to claim 21, wherein the adhesive material used on said adhesive faces (43, 44) has an adhesive force on the respective adhesive tape (2, 4) greater than that produced on the material of the connecting element (9), so that, on the latter, no adhesive material residues remain at the end of the application.

25 25. An assembly (1) according to claim 23, wherein the face of the connecting element (9) opposite to that placed on the respective adhesive face (43, 44) has longitudinal ribs (3), whose edges are parallel to the hair of the of the hair extensions (C).

26. An assembly (1) according to claim 25, wherein each rib (3) has a substantially V-shaped section.

27. A hair extension applicator (10), of the kind employed for thickening hair via the application, to the natural hair, of hair extensions (C), comprising:

30 * a fixed contrasting element (12) bearing connecting elements (9) of hair extensions (C) on a tape (2) and corresponding portions of receiving hair (60) of hair to be thickened (7), separated and corresponding to a respective connecting element (9); and

35 * a movable pressure element (15) acting on said fixed element (12), said movable pressure element (15) being driven by a pneumatic device operating at a predetermined pressure, apt to press on connecting elements (9) of hair extensions (C) and corresponding portions of receiving hair (60) of hair to be thickened (T) enclosed by tapes (2, 4),

characterized in that it comprises means for positioning the tapes (61; 64), the connecting elements (9) and the hair portions (60), in a predetermined position on said fixed and pressure elements (12, 15).

28. An applicator (10) according to claim 27, comprising respective recesses (73, 76) of
5 said fixed and pressure elements (12, 15) in a position such as to receive respective connecting elements (9) when they are pressed by the pressure element (15).

29. An applicator (19) according to claim 27, wherein the fixed element and the pressure element (12, 15) comprise a respective thermistor (24, 25) at their bearing planes (13, 16).

10 30. An applicator (10) according to claim 27, wherein the means for positioning the tapes comprises a gripper (61).

31. An applicator (10) according to claim 27, wherein the means for positioning the tapes comprises indent-shaped stops (64).

32. An applicator (10) according to claim 27, wherein the fixed and movable pressure
15 elements (12, 15) have respective bearing surfaces (13, 16) formed on removable plates (71, 72).

33. An applicator (10), according to claim 32, wherein, below each removable plate (71, 72) there are printed, with silk-screen techniques, the thermistors (24, 25) that are electrically connected to generate heat, said plates (71, 72) being thin and of metallic
20 material, with a high thermal conductivity.

34. An applicator (10) according to claim 32, wherein the first removable plate (71) has a plurality of recesses (73) that, in a plan, are basically oval or elliptical, preset to receive the connecting elements (9) placed on a first tape (2); and wherein the second removable
25 plate (72) has a plurality of punches (75), each corresponding to said recesses (73), the punch (75) having a configuration such as to fit the respective recess (73) and, onto its top, having a recess (76) of oval or elliptical shape and with substantially cutting edges (77).

35. An applicator (10), according to claim 27, wherein the bearing plane (13) on the fixed element (12) is of a soft, pliable material.

36. An applicator (19) according to one of the claims 33, 34 and according to claim 36,
30 wherein the second plate (72) has punches (75) having each a central recess (76) contoured to a twin cutting edge (81) cooperating with the pliable surface of the first bearing plane (13).